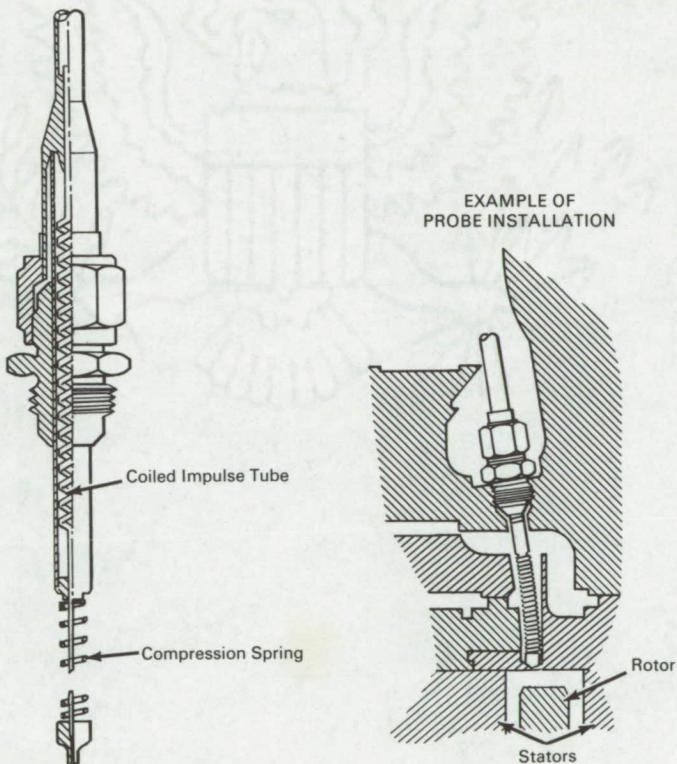


NASA TECH BRIEF



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Pressure Probe Compensates for Dimensional Tolerance Variations



The problem:

Measuring the static pressure between the rotor stages on an axial flow fuel pump necessitated a specially designed probe to compensate for dimensional tolerance variations and access hole centerline offset in adjoining parts of the pump. The probe was required to compensate for length differences of approximately 0.25 inch and be capable of making a

blind bend upon insertion and compensating for adverse tolerance stackup.

The solution:

A flexible, compressible spring loaded pressure probe.

How it's done:

The probe consists of a flexible, coiled impulse tube within a housing and loaded with a 30-pound spring to ensure positive seating at the probe tip.

(continued overleaf)

Notes:

1. This flexible static pressure probe would be useful in installations where a drilled static pressure tap or a rigid impulse tube cannot be used. The probe parameters must be specially determined for each installation, taking into account frequency response, effects of leakage past the probe tip on pressure measurements and test unit performance, and spring loading and mounting limitations.

2. Inquiries concerning this innovation may be directed to:

Technology Utilization Officer
Lewis Research Center
21000 Brookpark Road
Cleveland, Ohio 44135
Reference: B66-10599

Patent status:

No patent action is contemplated by NASA.

Source: R. A. Birner
of Aerojet General Corporation
(Lewis-302)